

with use as prescribed; however, suppression is possible with overuse of either preparation. *Candida* infection has not been a problem. Common side effects with both preparations include frequent nasal irritation and dryness that usually do not necessitate discontinuing treatment. Most reports show a decrease in the incidence of epistaxis with spray use, but there have been a few instances of mild epistaxis that have probably been related to use of the sprays. In two studies comparing the use of beclomethasone dipropionate with flunisolide, no significant difference was noted in their effectiveness or in the incidence of side effects. Patients and physicians favored the drugs equally.

Both sprays are contraindicated in the presence of an active nasal infection. Effectiveness is usually seen within the first few days to two weeks of use, and topical or oral administration of decongestants may be needed until effectiveness is shown.

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## Digital Subtraction Videoangiography

DIGITAL SUBTRACTION VIDEOANGIOGRAPHY (DSVA) is a recent angiographic development in which a low level (2 percent to 4 percent) of contrast material is detected with a videofluoroscopic apparatus operating at one frame per second. The image is then converted to digital form that is in turn computer processed immediately by electronic subtraction and a number of electronic enhancement techniques. This technology was designed as a noninvasive method of detecting arteriosclerotic disease in high risk or low yield situations to obviate some of the disadvantages of conventional catheter angiography. It has been applied to the study of a wide range of vascular occlusive diseases, both diagnostically and to assess patency following vascular reconstructions.

DSVA is a study that is safe, economical, reliable and can be done on an outpatient basis with intravenous administration of contrast material. Selected catheter arteriography may also be carried out with this technology, with the advantages

of reduced volumes of contrast medium and the availability of immediate subtraction views. Disadvantages of the study include deterioration of the quality of the study by patient motion and simultaneous visualization of all vessels with intravenous administration of the contrast medium.

Experience with this procedure in the past year has shown its usefulness in evaluating pulsatile tinnitus due to arteriovenous malformations, as well as in evaluating anomalous venous return and multiple myeloma of the temporal bone. Glomus tumors and other vascular tumors of the base of the skull have been evaluated and treatment response monitored. A vascular injury from a gunshot wound was also satisfactorily evaluated without conventional angiography. Vertebrobasilar artery patency and jugular venous patency have also been assessed.

Further experience is needed to more exactly define the role of this procedure. The greatest benefits appear to be a low risk method of screening vascular symptoms and lesions of the head and neck and a method for determining the presence of residual diseases and responses to treatment.

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## Recent Advances in the Treatment of Serous Otitis Media

IN AN AWARD-WINNING random study, Gebhardt reported the efficacy of tympanostomy and ventilating tubes for the treatment of recurrent otitis media. In a prospective study tympanostomy with tube placement was shown to significantly decrease the number of episodes of acute otitis media and to be an effective method of prophylaxis for an otitis-prone child, when compared with conventional antibiotic therapy.

The long-term effects of untreated middle ear effusion on learning ability were studied during the past year. Auditory processing abilities in children with persistent middle ear effusions have been a matter of concern since animal studies showed permanent anatomic deficiencies in the